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The Significance of Flowering Plants

by Randy Vincent & LinnAnn Welch

It would be difficult, even disheartening, to envision a world devoid of colors or springtime without the sweet fragrance and brilliant displays of nature's bouquets.

As if appearing overnight, ephemeral wildflowers soon transmute our often-dreary visions of a prolonged gray winter into another hopeful spring.

Spring is the time of year most often associated with renewal and rebirth. With the arrival of longer and warmer days, flowering plants that have been lying latent during the winter months begin to burgeon and bloom. Soon the drab and muted landscape is transformed into a mosaic of multi-hued wildflowers, shrubs, vines, and trees.

This most-welcomed arrival seems to trigger our own awakenings. We respond like all of nature's creatures to an innate calendar. The torpidity, brought on by the long, dark winter months, soon wears off as we shed our winter skins and start anew. We often refer to this rejuvenated state as "spring fever."

A splendid pageantry of colorful flowers begins in late winter/early spring, proceeds into summer and continues into the golden days of late autumn. Today there are many people who appreciate and have become acquainted with the wildflowers of Tennessee and Eastern North America. Each year they make it their purpose to take sojourns into the natural world, or even pilgrimages to favorite places, to observe and enjoy these treasures of nature. To them, the seasonal changes are not indicated on a calendar and measured in increments of time, but rather observed in the subtle nuance of nature's on-going drama that is played out in four grand and eloquent acts.

The seasons flow one into the other, thus completing the round of the year. It is the wildflower that seems to help mark these passages of time, all the while accenting the seasonal changes with a play of color and light.

Eminent writer and essayist Ralph Waldo Emerson wrote in his essay Nature: "A nobler want of man is served by nature, namely the love of beauty."

An anonymous writer stated that "beauty is in the eyes of the beholder." Yet from culture to culture, and person to person, our perception of what is beautiful is as varied as the many flowering plants that inhabit the world. However, when it pertains to flowers, their truest essence is that of universal beauty.

Since the beginning of humankind, flowers have been perceived as objects of beauty and splendor. This is evident in the artifacts and mythological drawings, paintings, and carvings of primitive cultures. During archaeological excavations of primitive sites, seeds, pollen, and floral parts have been unearthed indicating that early man also utilized flowers as a food source and for medicinal purposes. It is the continued belief of the last remaining indigenous, primitive peoples that for every ailment there is a plant growing in close proximity that is the panacea, or heal-all.

Primitive people may not have been aware that green plants produce oxygen during the process of photosynthesis, but they realized the monumental importance of plants in their daily lives filled with mundane activities and in their usage in spiritual rites and ritual of passage and community ceremonies.

The longest occurring period in human existence was that of hunting and gathering peoples. They followed the season in search of food, clothing, and shelter. All they needed to sustain life and define culture was derived from the natural world. To pay their respects and to show reverence for their gifts, early humankind incorporated plants, animals, natural features, and phenomenon into their belief systems, myths, legends, stories, and religions.

However, it was the subsequent domestication of wild flowering plants that would forever change the course of human histories. Man would become less transitory and more sedentary in his gradual change from hunter and gatherer to agrarian. This change would result in the development of larger civic centers that were more densely populated.

Eventually, man would attempt to produce more abundant yields with fewer plant species. This was a direct result of larger populations relying on fewer people to grow their foods. Socio-political and economic hierarchy developed as man became more specialized in his services to the community, state, or county.

As man slowly detached himself directly from wild nature, his attitudes toward earth would eventually change. Where once he interacted with and walked through the natural world, he now stood on his detached plot and looked out into nature - a duality had developed. Wild plants that he could not control became competition for his crops. A prejudice resulted in the term for noxious and invasive plants being called "weeds."

These early farmers' faith and resolve were continually tested as they attempted to predict the capricious weather, calculate and measure the passage of time. Meteorology and astronomy are direct results of the domestication of wild flowering plants. This tenuous and tedious relationship between humankind and wild plants would result in the rise and decline of great civilizations.

There is so much to learn about people and their cultures by simply observing or studying their artwork. Flowering plants have always been incorporated in the artistic expression of all people throughout the world.

Today, in our modern, stressful world, we still use flowers in much the same way as our primitive precursors. Even science and technology have not been able to explain all the mystery out of the magic of flowers. I still say an apple is far more amazing than the Apple computer. The most erudite person needs the sustenance of the apple to fuel not only the appetite of the physical body, but also that of the intellect, passion, spirits, and soul.

A rose by any other name is still a rose. Flowers have always been given to loved ones to express our amorous desires or friendships. Posthumously, flowers have been used in mortuary ritualism to adorn the body and gravesites of the dearly departed.

Human civilization owes much to the formation and evolution of flowering plants. The angiosperms, or flowering plants, are the dominant plants of the world today. They include nearly all the crop plants of orchard, garden, and

field. Hardwood forests, shrubland, grassland, and deserts are composed chiefly of flowering plants. Except for the coniferous forests and waters of the world, the conspicuous and dominant vegetation is that of flowering plants. They show incredible variation in form, from simple stemless, free-floating duckweed through a whole series of herbaceous or non-woody types to shrubs and finally to trees such as oaks, hickories, beeches, and maples. Collectively they help comprise plant formation, association communities, ecosystems, and habitats. All of their success from some 90 million years ago to present day, is the result of the simple flower.

The outstanding and unique structures of angiosperms are the flower and the fruit that develops from the ovary of the flowers with its enclosed ovules or seeds.

The flower is simply a shoot bearing floral leaves. There are complete flowers that consist of sepals, petals, stamens (male), and carpels (female). Flowers that lack one of these structures is referred to as an incomplete flower.

Some flowers are unisexual, that is they have either stamens or carpels, not both. They require the assistance of wind, water, and a host of vectors (insects, birds, reptiles, and mammals including man) to cross-pollinate. Pollination can result in fertilization and the formation of a fruit. The ripened ovary or fruit help protect and aid in the dispersal of the seeds. The seed houses the cryptic, genetic coding for each unique specimen of plants. The next time you eat an apple, think of the complex process.

In nature, everything has its own intrinsic worth and formulated uniqueness. Each species of flowering plant possesses certain characteristics, features, and requirements that distinguish it from other plants.

The flower in itself is an intricate part of the flowering plant that has been used to help identify, classify and categorize. They can grow on herbaceous, non-woody stalks or woody vines, shrubs, or giant trees. Not all flowers bloom at the same time or within the same environment, for their requirements for life are extremely varied. Learning to identify, appreciate and understand flowers is to anticipate their arrival each year like the returning of an old friend.

Throughout human history, plants have been associated with possessing certain powers that can influence and affect the human emotional state and physical condition.

The human emotion of love is forever associated with the exquisite rose. Asters were thought to bring good luck and were placed above the doorway to help ward off evil spirits. The common aspirin is derived from salicylic acid that is naturally found in plants like spirea and willow trees. Echinacea, or Purple Coneflower, and St. John's-Wort are but two of the many herbal remedies that are being used today as they were thousands of years ago.

In North America, exclusive of Mexico, there are over 19,000 indigenous vascular plant species. Of that number, 2,000 species have been documented as medicinal plants in the traditions of various native peoples and Europeans that settled the continent in the past 500 years.

Just a few generations ago, many rural communities were still using remedies administered by folk herbalists and conjurers. Today there are fewer herbalists, but a resurgence of many herbal medicines and remedies. Large pharmaceutical companies now manufacture and market medicinal plants under a host of trade names. I still say a medicine is only as potent as the belief in the power of that medicine to heal or make well.

Pulled by a warming winter sun, urged on by an ever mutable moon, coaxed and coerced by capricious winds and with the promise of on-coming spring rains, wildflowers start to emerge from the frozen earth. The first to brave winter's icy grip is the tiny Harbinger-of-Spring (Erigenia bulbosa). It is truly amazing to realize that something so delicate can blast through rocky soil, past the roots of towering trees, up through the cold crust of earth and unfurl into a wildflower. Though valorous, it usually goes unnoticed except by those few who search out and find the little salt and pepper plant concealed in a world of mulch and fallen leaves.

Fulfilling most people's expectations of a perfect flower is the lovely Spring Beauty (Claytonia virginica). This plant's plentitude throughout the spring woodlands is a most memorable sign that spring has surely arrived. Spring Beauty is often referred to as "fairy spuds" because the roots resemble tiny potatoes and were roasted and eaten.

Animals such as bear, raccoons, and deer regularly eat the roots of the Spring Beauty. Due to their varied chromosomal number, the plants are used in genetic studies and research.

Finding an isolated patch of Hepaticas (Hepatica spp.) while hiking through the early spring woodland can be a most

rewarding discovery.

When pioneer farmers saw the small delicate blossoms of Hepaticas in spring, they knew it would soon be time to start planting their potatoes. Due to the liver-lobed shape of the leaves, it was believed that the plant could cure liver ailments. Among the Cherokee, "those who dream of snakes drink a decoction of this herb and the Walking Fern (Camptosorus rhizophyllus) to produce vomiting, after which the dreams do not return."

There are many species of trilliums in Tennessee. They may vary in overall size and the colors of their petal, but all of them have three leaves, three petals, and three sepals. Indigenous peoples long used trilliums for a variety of ailments, injuries, and conditions. Early settlers would learn and adopt many of the uses of this native wild flower. The root was used to reduce swelling of the eye. For cramps, it is grated, steeped, and drank as a tea. For irregularity of the menses, this root is grated and put into water to simmer and then drank. Many tribes believed the flower to be a love potion. They would pound the bulb and rub it on the body or cook it and drop the root in to the food of the person they so desired.

Members of the mint family are the preeminent plants used in the culinary fields and in the production of many medicinal remedies. They are identified by square stems and produce an aromatic smell when the leaves are crushed. It seems as though the entire summer could be savored in the aroma of one wild mint leaf.

Ambrosia is known as the food of the gods. It is interesting that the genus of one of our most hated flowers is so named. The terror of fall, loathed by thousands, is the plant in question. It is ragweed (Ambrosia spp.) whose wind-born pollen causes such allergies that many folks remain inside during its flowering time of July through October.

Its flowers are numerous yet so small and inconspicuous that goldenrod, (Solidago spp.) with brilliant yellow flowers (insect-pollinated and non-allergenic) is often blamed for the sneezing properties. Similar to other misunderstood aspects of nature, ragweed, in addition to all other of creation's masterpieces, has a purpose and valuable qualities of its own. Pre-Columbian naturalists realized the foliage was useful when applied to insect bites as well as over a dozen other medicinal uses. Many migrating species of wood warblers feast on the seeds. Even science can learn from the plant. Common Ragweed (Ambrosia artemesiifolia) seeds can remain dormant yet fertile in the soil for as much as 80 years. Cultivated species could certainly benefit from such longevity.

Hummingbirds, naturalists and wild food enthusiasts love Jewelweed (Impatiens spp.). Nature often places the cure to a problem right beside it. Jewelweed often inhabits the same grounds as both Poison Ivy (Rhus radicans) and Stinging Nettles (Urtica dioica). The life fluids of the stem, when forced from the stem and placed on skin exposed to Poison Ivy, will often prevent formation of or facilitate the healing of existing rashes. It also quickly relieves the stinging sensation of Stinging Nettles. Mature seeds of the Jewelweed are quite tasty as well as fun when exploding and taste to many like peanuts.

Brilliant red colors in nature often warn of impending danger. Cardinal Flower (Lobelia cardinalis) perhaps may be most dangerous because its intense beauty may take your breath away. Another favorite of hummingbirds, Cardinal Flower appears in mid to late summer and enhances any flower garden with its gorgeous scarlet colors.

When the last acre of forest is finally civilized and the progress that had to be made is achieved, who will mourn the ephemeral foliage and delicate petals of spring? Will a handful of mourners descend to the sites of the last destroyed pockets of wilderness to speak of colorful springs of lore, tales scarcely remembered by grandmother, myths of diversity beyond compare. Or will we simply proclaim what a glorious accomplishment of man, our manifest destiny became complete today.

Although each plant should ideally be loved for its own intrinsic value, each individual's beneficial qualities to humankind may be the forests' only saving grace. The panacea of what ails you is out there in those deep, dark woods, and not necessarily in the biorich tangles of the rainforest. The Southeastern deciduous forests are presently second to the tropical rain forest in biodiversity and may contain the cure to some yet unknown yet horrible calamity to human health. We best not deplete ourselves of future resources for the fast dollar today.

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